

September 10, 2019

VIA ELECTRONIC FILING

Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th St. SW
Washington, DC 20554

Re: **Ex Parte Submission**

***Modernizing the E-rate Program for Schools and Libraries -- WC Docket No. 13-184
Schools and Libraries Universal Service Support Mechanism -- CC Docket No. 02-6***

Dear Ms. Dortch:

On September 9, 2019, Brian Stephens and John Harrington met via video/telephone conference with Mark Stephens, Managing Director, and Cara Voth, Legal Advisor to the Managing Director. We shared the attached presentation, titled "E-rate Category Two Discounts: Support for Schools and Library Networks (FY2015 to FY2019, and Beyond)".

We explained that the E-rate Category Two ("C2") budget system is a success and a huge improvement over the previous "Priority" system. Over the past five years, the C2 budget system has allowed schools and libraries to invest billions of dollars in on-campus broadband -- investment that would not have otherwise occurred.

Based on our most up-to-date analysis, we shared our estimate that 96,844 schools and 6,639 libraries have benefited from Category Two discounts. This corresponds to 86% and 49% of school and library sites, respectively. The average school investment was \$60,938 per site, with the E-rate program providing \$44,194. The average library investment was \$18,273 per site, with the E-rate program providing \$14,646.

We emphasized that E-rate funding is vital to the Internet connectivity goals of 94% of applicants; and that a much higher percentage of applicants currently view the program as reliable than did four years ago. In our 2019 survey, 84% of applicants agreed that they can depend on E-rate funding every year¹.

Looking to the future, we explained that the Category Two budget system is poised to play an even more significant role. 98% of applicants describe Wi-Fi as being extremely or very important to their organization's mission, and 75% of them indicate a need to upgrade their Wi-Fi by 2022. Another 21% plan to upgrade their Wi-Fi in 2023 or 2024. In other words, looking at the next five years, 96% of applicants will need to upgrade their mission-critical on-campus Wi-Fi network, and they are counting on the E-rate program to provide them much-needed financial support to get the job done.

As such, we applauded the current FCC administration's efforts to improve and make permanent the Category Two system at this critical juncture. To that end, we shared recommended changes that would enhance the C2 system in the future. The primary enhancement relates to sites that are not served well by the current C2 budget calculation factors. For most school and library sites, that is not case; however, there are two types of sites that are not served well: small sites, and sites that have above-average costs.

We shared statistics that the smallest school sites are five times less likely to receive C2 discounts. Over the past five years, 41.3% of school sites with an enrollment of less than 62 students received zero C2 funds. In contrast, the percentage of larger school sites receiving zero C2 funds during the same period was 7.7%. Schools with a higher enrollment were much more likely to receive C2 support than their smaller school counterparts. We noted that this trend was consistent regardless of whether a school site was stand-alone or part of a school district. This disparity is due to the gap between the average Wi-Fi project cost of \$60,938, and the low budget floor of \$9,793.

We also explained that 37% of sites receiving C2 support needed more financial assistance than the current budget factors would allow. These are older facilities, which many times are found in older neighborhoods and are much more expensive to wire and upgrade; or facilities that are further along the technology adoption cycle, supporting more devices and programs that integrate technology more effectively.

¹ See <https://ecfsapi.fcc.gov/file/108010655418094/FY2019TrendsReport-ExParte2019-07-30.pdf>

How to better serve these two types of sites is the most important question before the Commission.

Having identified the main priority for revising the budget system, we offered a list of other enhancements or benefits, such as:

- (1) Eased administrative burden for all parties. For example, by eliminating the sub-classifications of C2 goods and services (i.e., IC, BM, and MIBS).
- (2) An expanded eligible services list to better serve the I.T. requirements of modern networks; For example, allowing support for network security functionality and all other critical network infrastructure.
- (3) Elimination of unnecessary delays and denials. For example, eliminating denials for funding requests above the C2 budget amount.
- (4) Improvements to the accuracy and completeness of data gathered by the FCC. For example, by allowing applicants to report the full costs of a project, even if in excess of their C2 budget.

We then described the three primary solutions available to the FCC to address the budget shortfalls at small sites and above-average cost sites. They are the factors that have the greatest impact on the funds' ability to serve the needs of its constituents: increased minimum budget floor, increased maximum budget (per student or per square foot), and adoption of a consolidated budget system for school districts and library systems.

We also briefly discussed some of the other variables and factors that the FCC must consider: the eligible service list, the five-year budget cycles, defining the circumstances under which individual budgets versus consolidated budgets are used, and the methodology for calculating a consolidated budget. Funds For Learning recommends that (a) all network infrastructure be made eligible; (b) all budgets be calculated on the same cycle (which would facilitate future changes to the C2 system by the FCC); (c) that consolidated C2 budgets be used for entities that operate under a consolidated accounting system (e.g. a individual school with autonomous accounting/financial functions) would continue to function independently; and (d) consolidated budgets would be calculated by summing the budget amounts associated with each individual school or library site in the system (i.e. budget floors would be calculated for individual sites and then summed with the other sites.)

After discussing these possible changes, we shifted our discussion to a detailed estimate of the current C2 budget shortfall, and the impact of certain changes to address that shortfall. We provided an overview of our methodology, noting that the utilization of C2 budgets follows a distinct pattern. A certain percentage of sites used 10% of their budgets, another similar sized group used 20% of their budgets, and so on. Assuming that smaller sites would be more apt to apply if the budget floor was higher, and based on the demand pattern for sites receiving C2 discounts below the budget cap, we were able to estimate the total actual demand for C2 funds by schools and libraries. We estimate total C2 projects costs of \$1.055 billion versus the current average of \$0.871 billion. The difference of \$184 million is the estimated shortfall that is the result of the current budget factors.

Finally, we shared our analysis², in which we estimated the financial impact to schools and libraries of various improvements to the C2 budget system. Our model shows the following:

- Increasing the budget floor to \$25,000 per site alone would reduce by \$44 million the gap between the current support and the actual need, leaving an annual shortfall of \$139 million.
- Adopting consolidated budgets alone would reduce the gap by \$51 million, leaving an annual shortfall of \$132 million.
- Both increasing the budget floor to \$25,000 and adopting consolidated budgets would reduce the gap by \$100 million, leaving an \$84 million shortfall.

We explained our belief that the current budget shortfall could be addressed entirely with a few changes. Funds for Learning recommends that the budget floor be set at \$30,000; that the per student budget factor be set at \$260 per student; and that a unified \$6.00 per square foot factor be used for all libraries. Making these changes, combined with a consolidated budget system, should dramatically improve the situation for small sites and sites with above-average costs.

Finally, we again reiterated the benefit of adopting a single C2 classification without subcategories, the expansion of the eligible services list to include all vital network infrastructure, and a fixed five-year budget cycle that is synchronized for all applicants.

² See <https://www.fundsforlearning.com/blog/2019/09/c2-reform-could-bring-100m-per-year-1>

Funds For Learning, LLC
Ms. Marlene H. Dortch
September 9, 2019

Respectfully submitted,

/s/ John D. Harrington

John D. Harrington

Chief Executive Officer
Funds For Learning, LLC
2575 Kelley Pointe Parkway, Suite 200
Edmond, OK 73013

cc: Mark Stephens, Managing Director
Cara Voth, Legal Advisor to the Managing Director

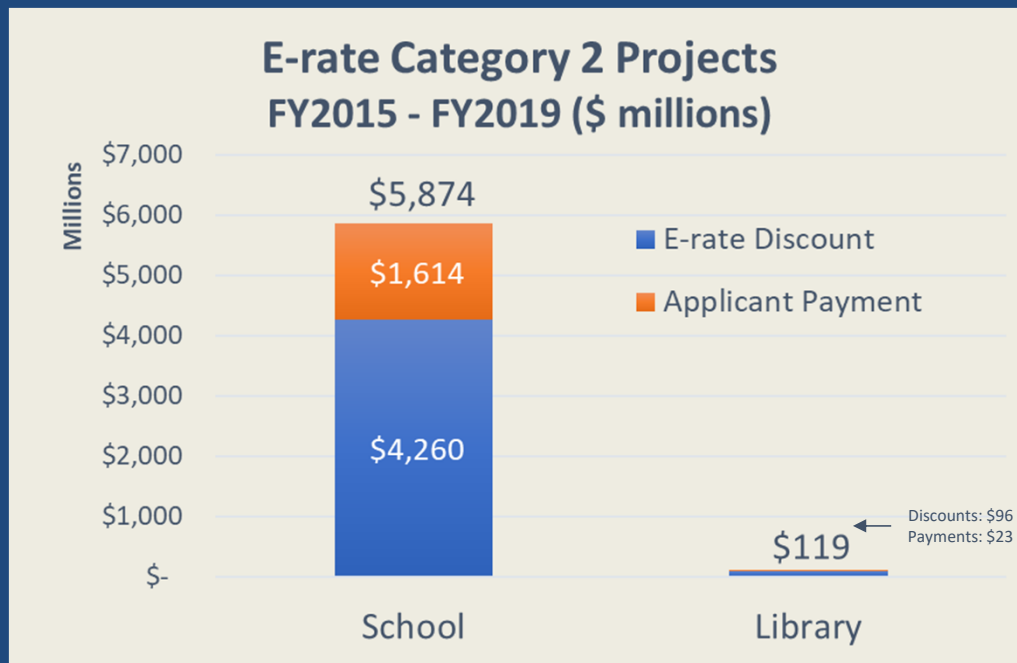
E-rate Category Two Discounts: Support for School and Library Networks (FY2015 to FY2019, and Beyond)

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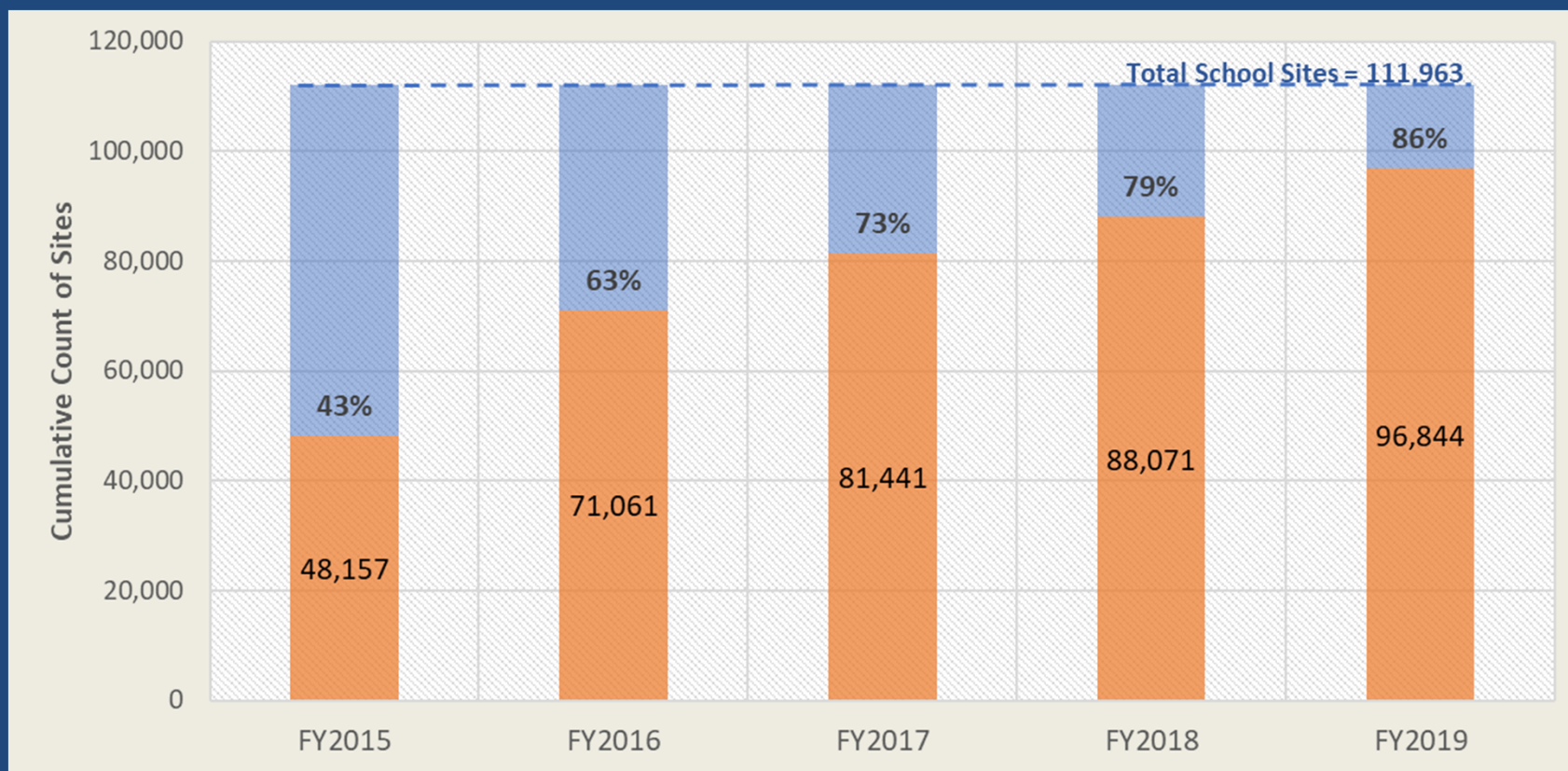
Twitter [@jdharrington](https://twitter.com/jdharrington)

\$6.0 billion invested in Wi-Fi since 2015

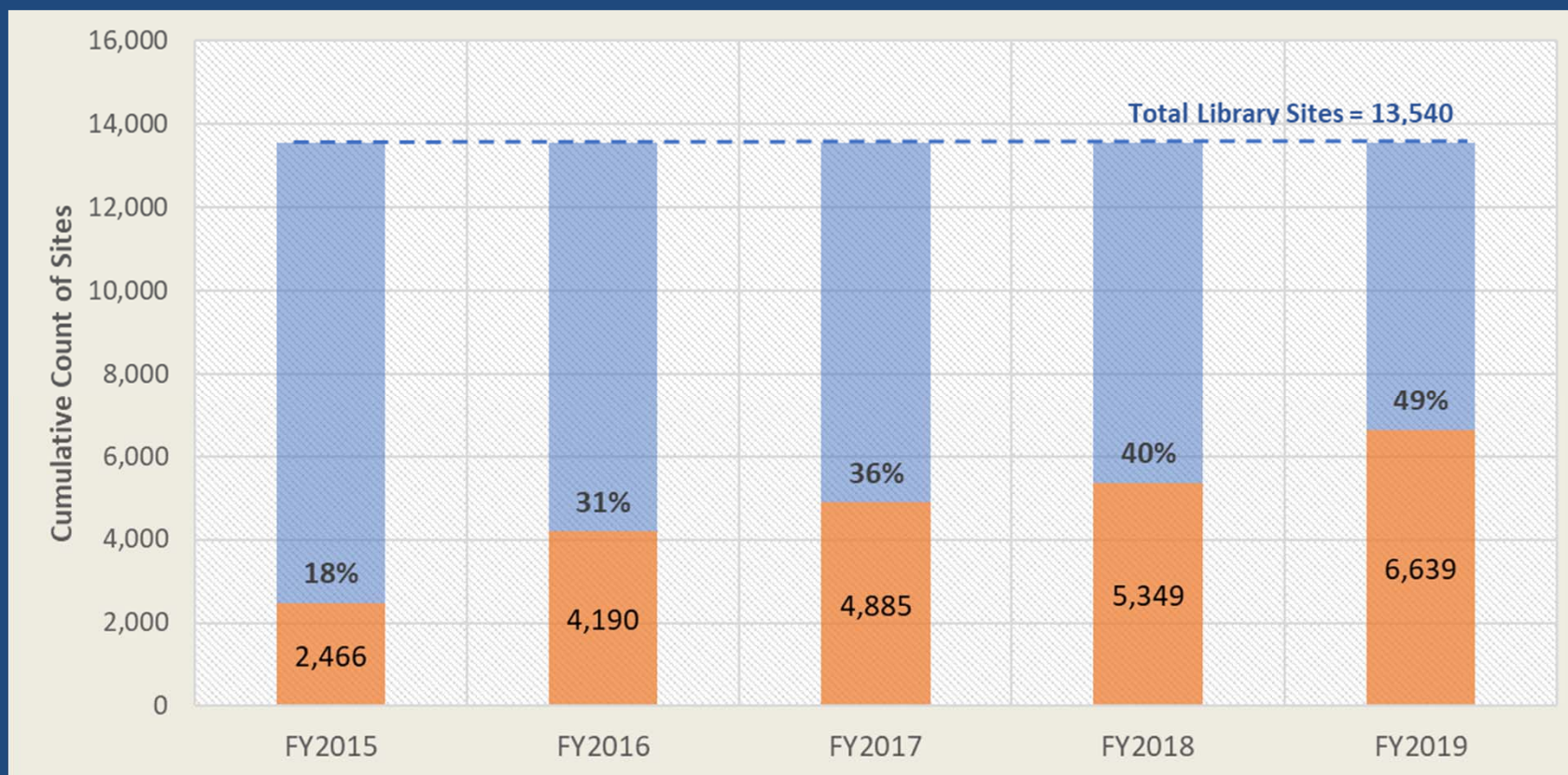


- Category 2 funding pilot succeeds
- Supports Wi-Fi, switches, cabling
- Better than old “Priority” system
 - › No Wi-Fi funding in 2013 and 2014
 - › Other years, small % sites supported
 - › Hindered technology planning
- Since 2015, under C2 system:
 - › All sites have option to received funds
 - › On-campus broadband is increasing

C2 has helped 96,844 school sites (86%)

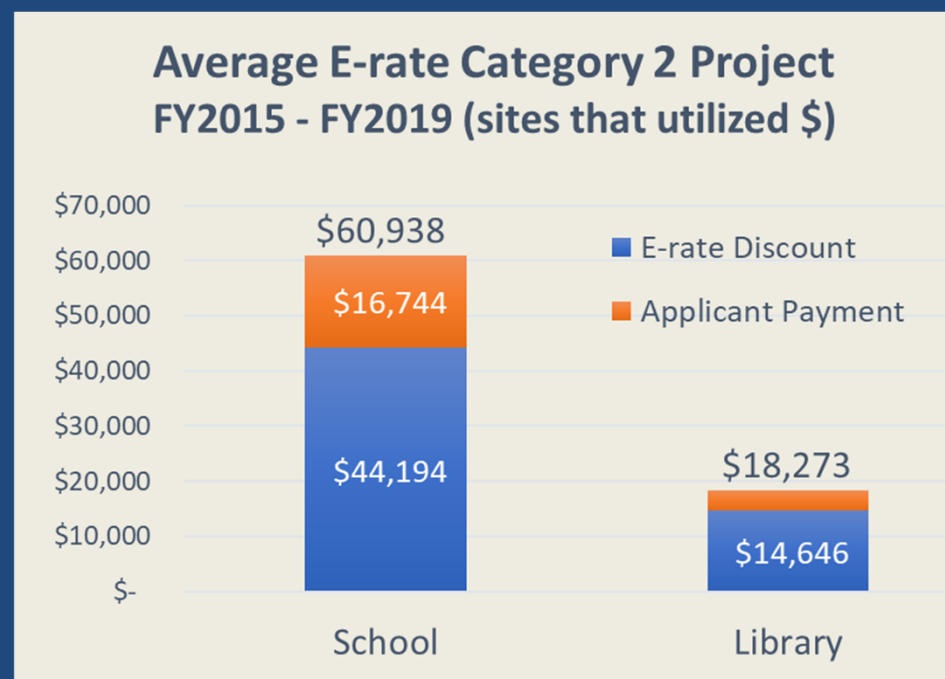


C2 has helped 6,639 libraries (49%)

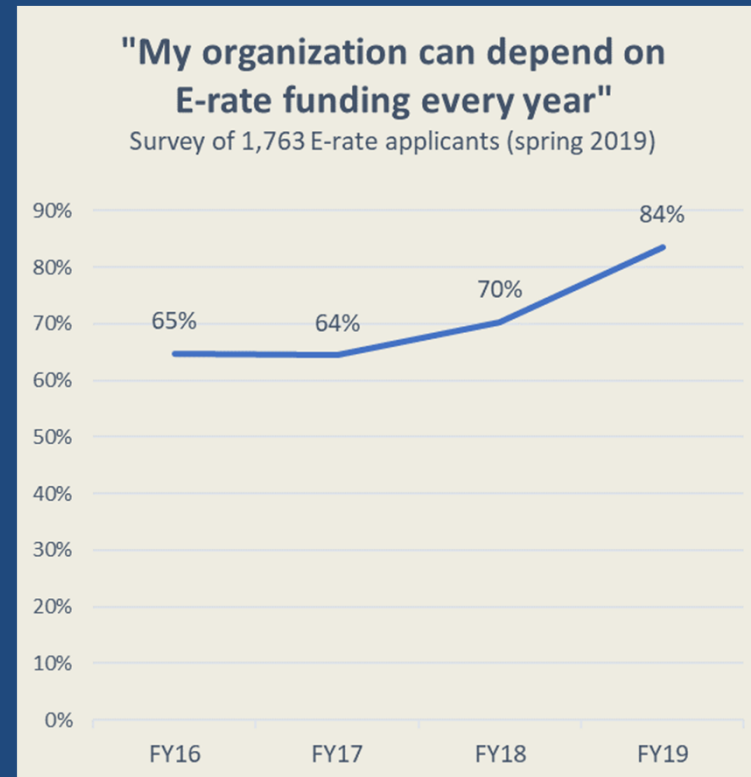
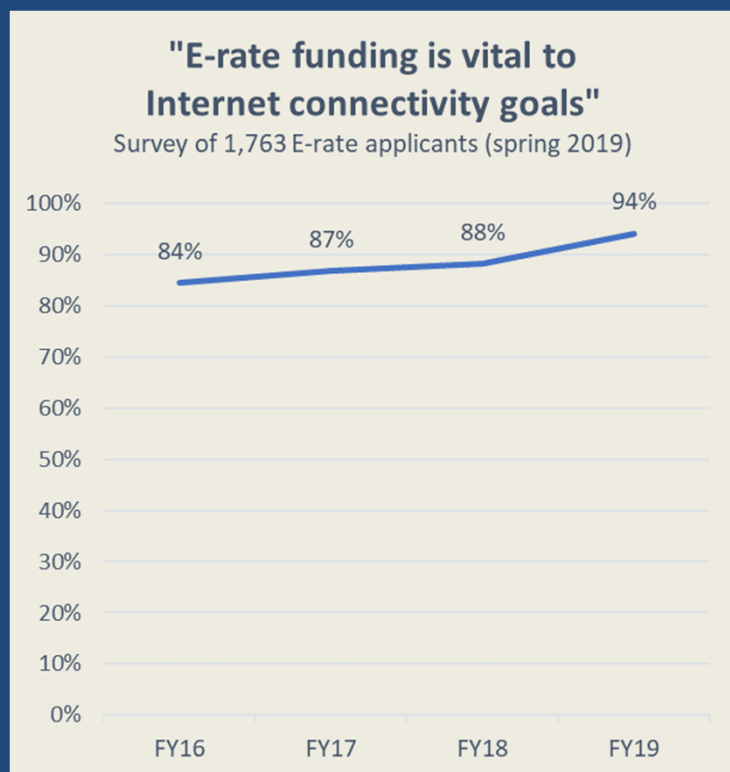


Sites receive \$1,000's for on-campus data

- School: 96,844 sites (avg 73% disc)
 - › E-rate support: \$44,194 per site
 - › Total investment: \$60,938 per site
 - › Budget: \$118/student
- Library: 6,639 sites (avg 80% disc)
 - › E-rate support: \$14,646 per site
 - › Total investment: \$18,273 per site
 - › Budget: \$1.23ft² (R) /\$1.73ft² (U)



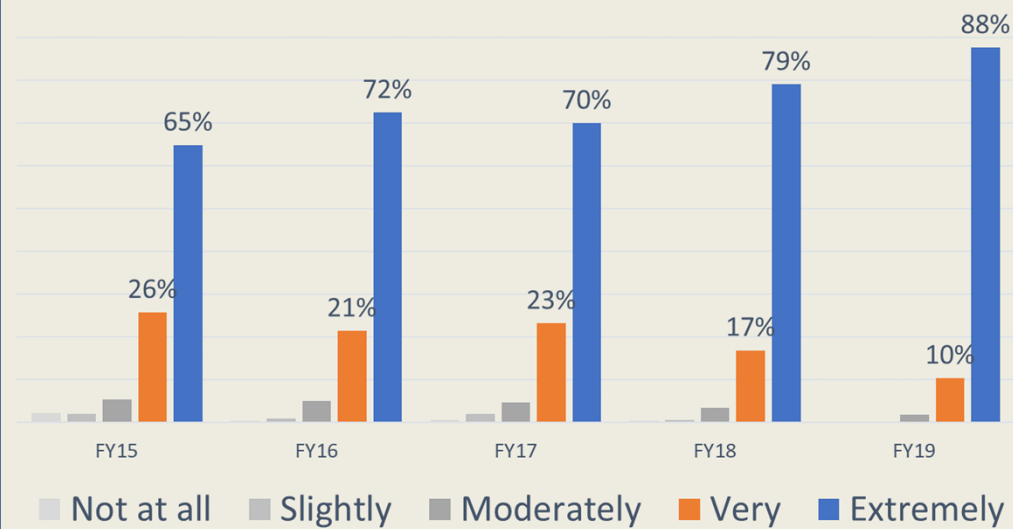
Applicants Rely on E-rate \$ for Broadband



C2 Poised to Play a Bigger Role in Next 5 Years

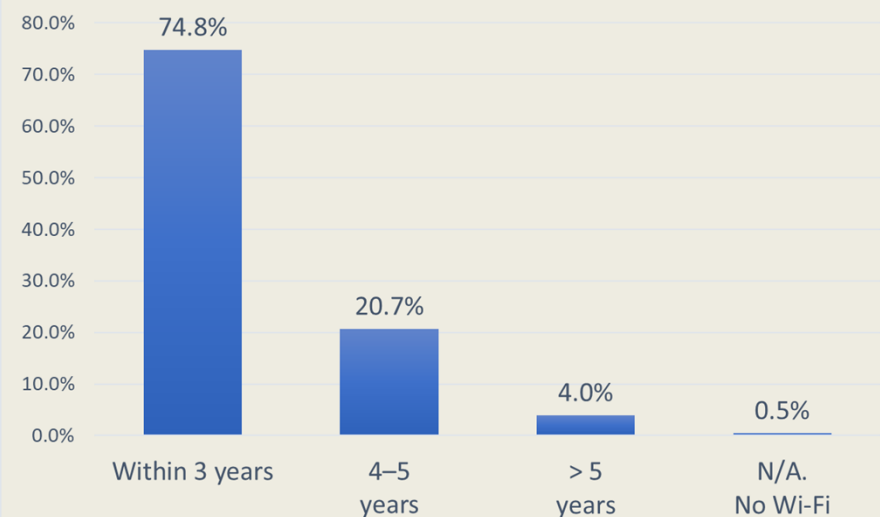
How important is Wi-Fi to fulfilling your organization's mission?

Survey of 1,763 E-rate applicants (spring 2019)



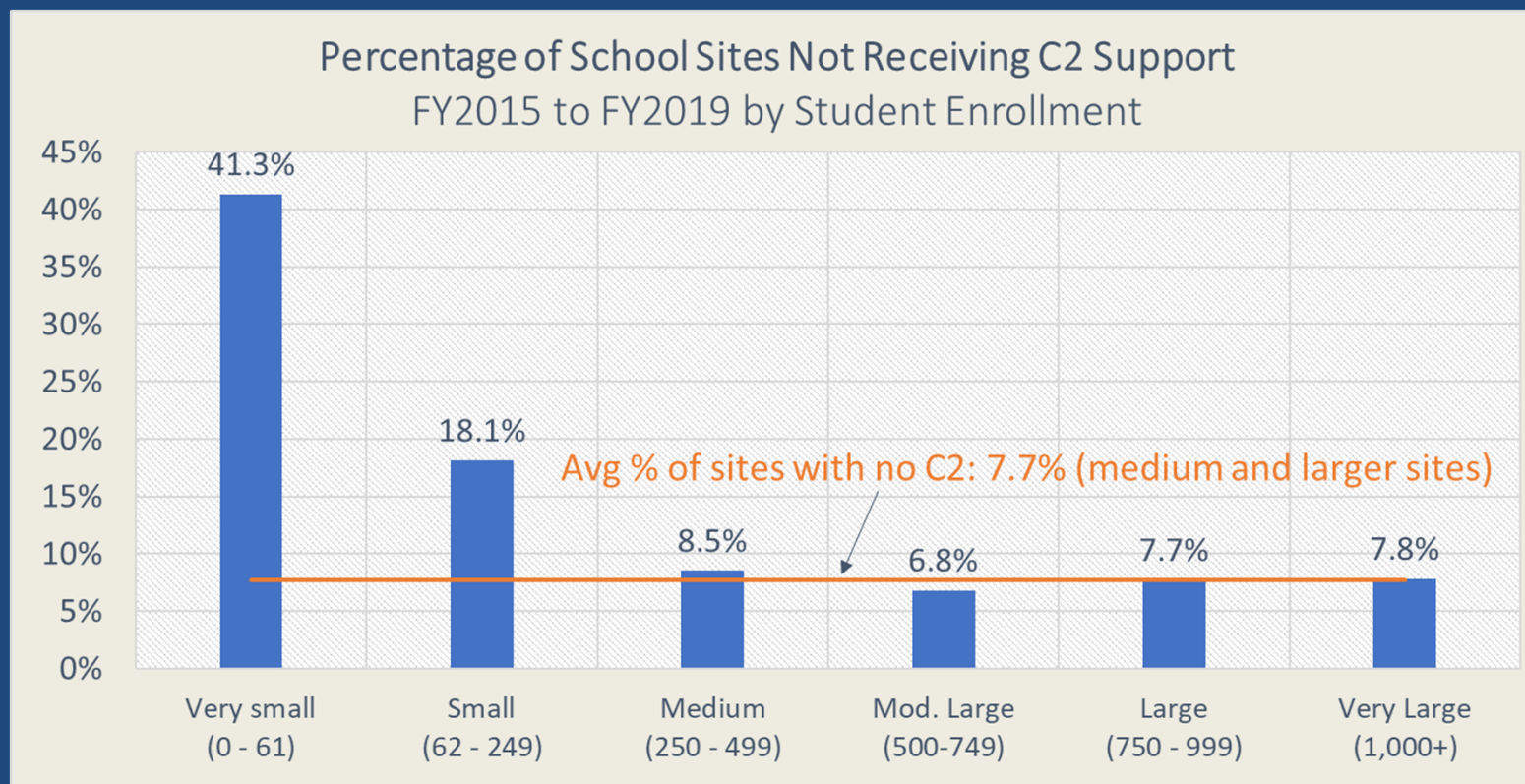
When will Wi-Fi Need upgrade?

Survey of 1,763 E-rate applicants (spring 2019)



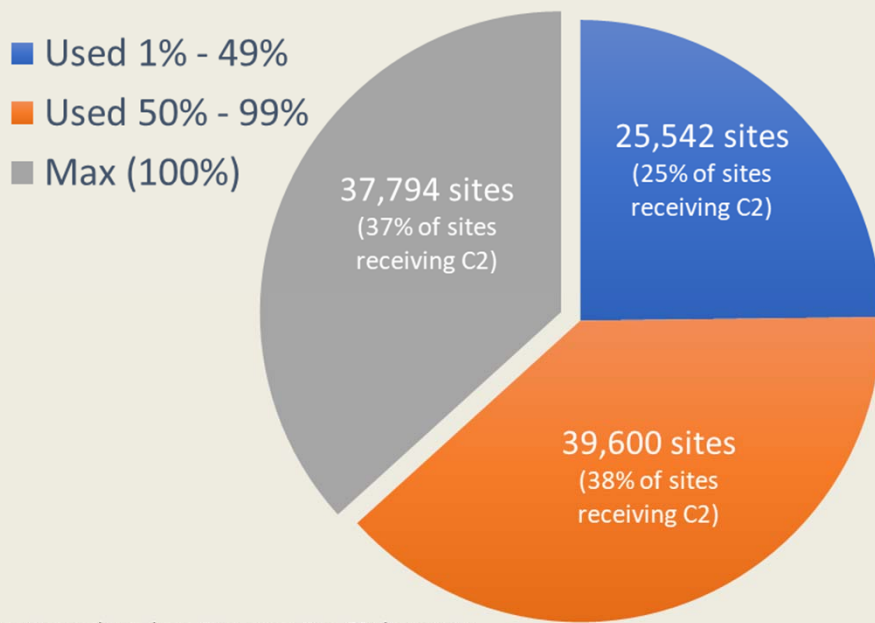
Improving Category Two Funding Year 2020 and Beyond

Very small schools 5X less likely to get C2 \$



Budgets Limit C2 Investment in 37% of sites

C2 Budget Usage by Range of Funding Utilization



Percentages based on sites receiving C2 discounts.
Counts exclude sites not receiving C2 support

- Budget sufficient for 63% of sites
- Budget maxed at 37% of C2 sites
- Some sites need more C2 \$
 - › Older buildings
 - › Facilities with more devices
 - › Programs w/higher tech integration

Other opportunities for improvement



- Ease administrative burden (on all parties)
- Expand eligible services list to meet today's I.T. needs
- Eliminate unnecessary delays and denials
- Improve the data gathered by the FCC

Three Primary Solutions Being Discussed

Increase Budget Floors



Higher
minimum
for each site

\$9,793

Increase Maximum Budget Factors

\$160



per student



\$2.45ft² (rural)



\$5.32ft² (urban)

Higher maximum for each site

Use Consolidated Budgets



One budget per
school district and
library system

Budget equal
to sum of
individual sites

\$1,000



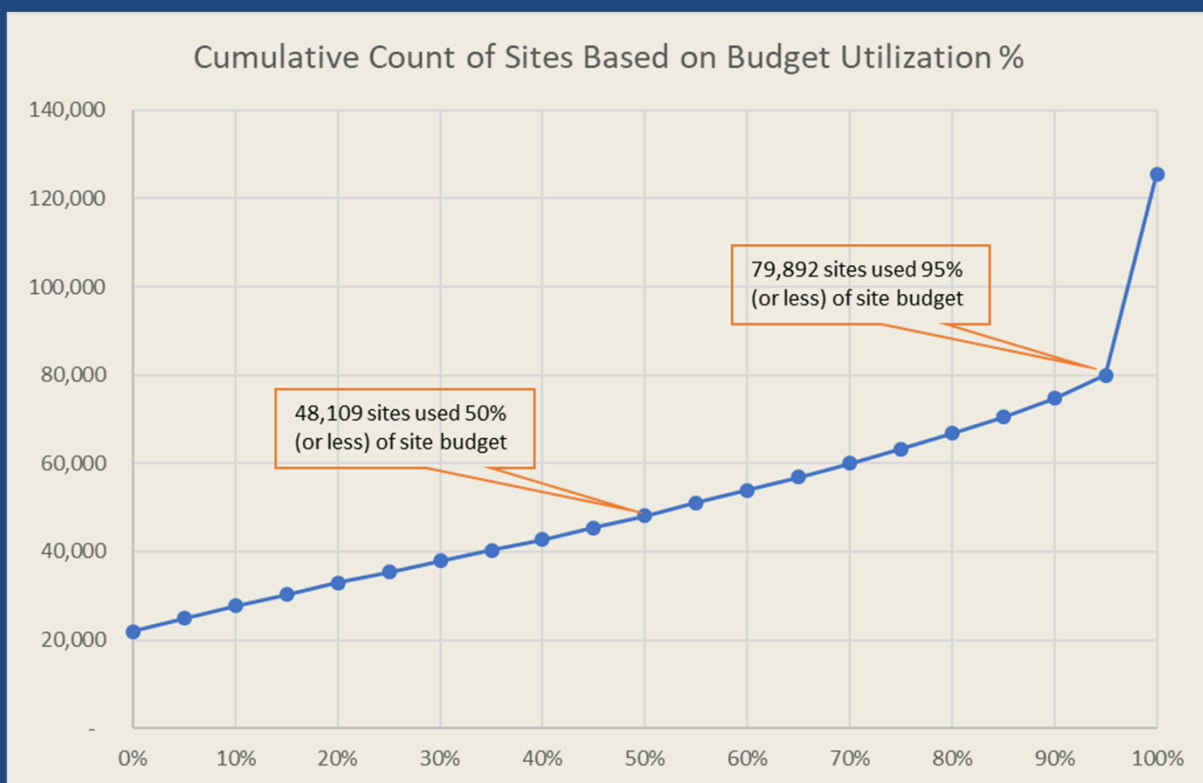
Other Considerations

- Expand eligible services to include all network infrastructure
 - › Better serve modern network technology needs
 - › Simplify application process and reduce administrative burden
- Calculate budgets once per five year cycle
 - › Inflation adjustments made once every five years rather annually
 - › Place all applicants on a fixed cycle (e.g. 2020 to 2024, 2025 to 2029, and so on)
- Maintain site budgets for entities that function autonomously
- Use individual site calculations to determine overall budget

Understand the Impact

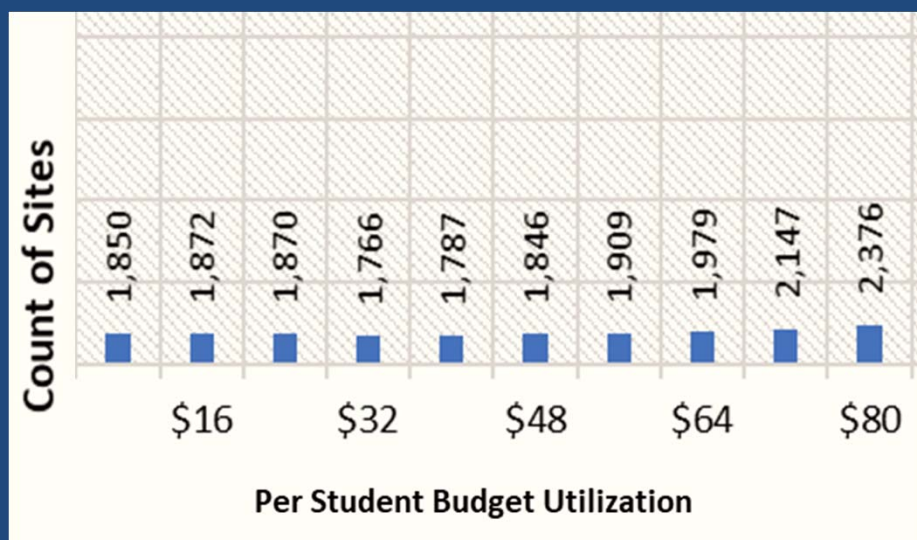
Evaluating opportunities to improve C2

Estimating true demand above max budget



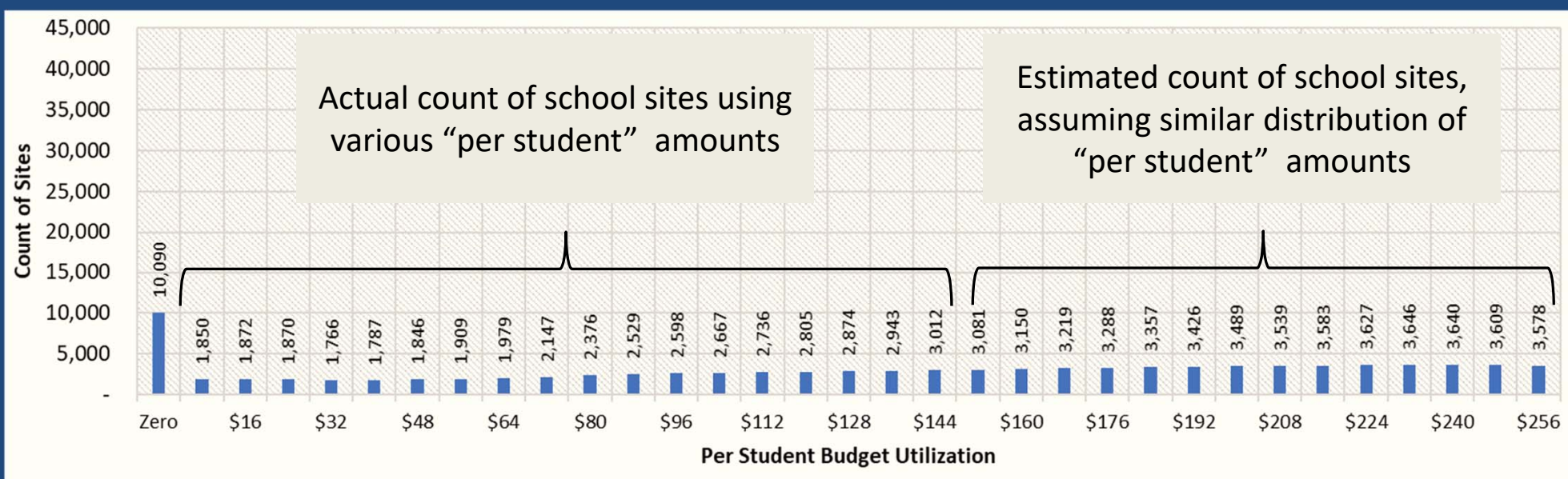
- Utilization follows a pattern
- 2,799 sites per 5% interval
- 79,892 sites < max budget
- Site count spikes at 100% utilization because budgets too low for 37,794 sites
- Trendline allows estimates of demand beyond budget cap

Forecasting demand above current budgets



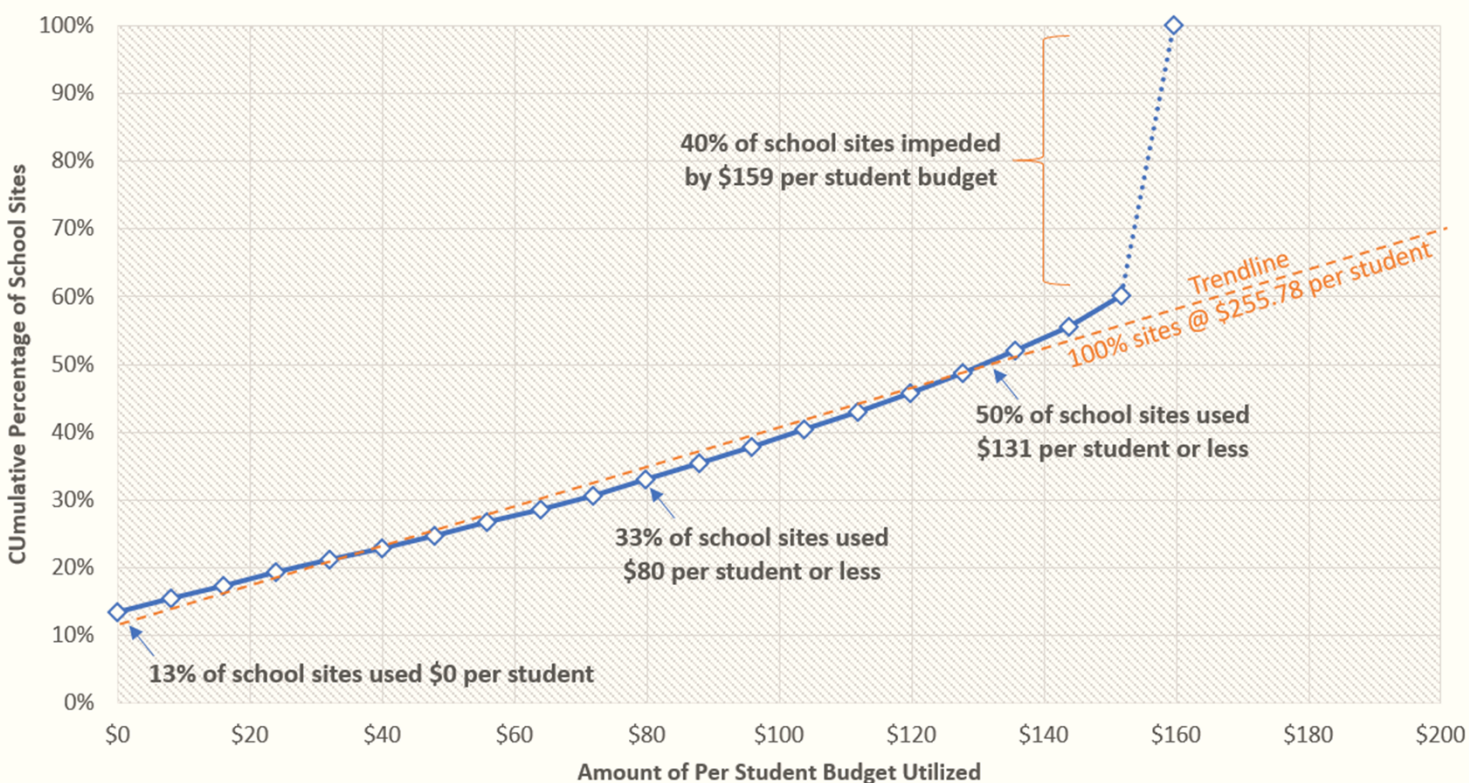
- Not all schools need same \$
- There is a distribution of costs
- For example:
 - › 1,979 schools used \$64/student
 - › 2,147 schools used \$72/student
 - › 2,376 schools used \$80/student

Estimating sites with needs above budget cap



Forecasted School Need: \$256/student

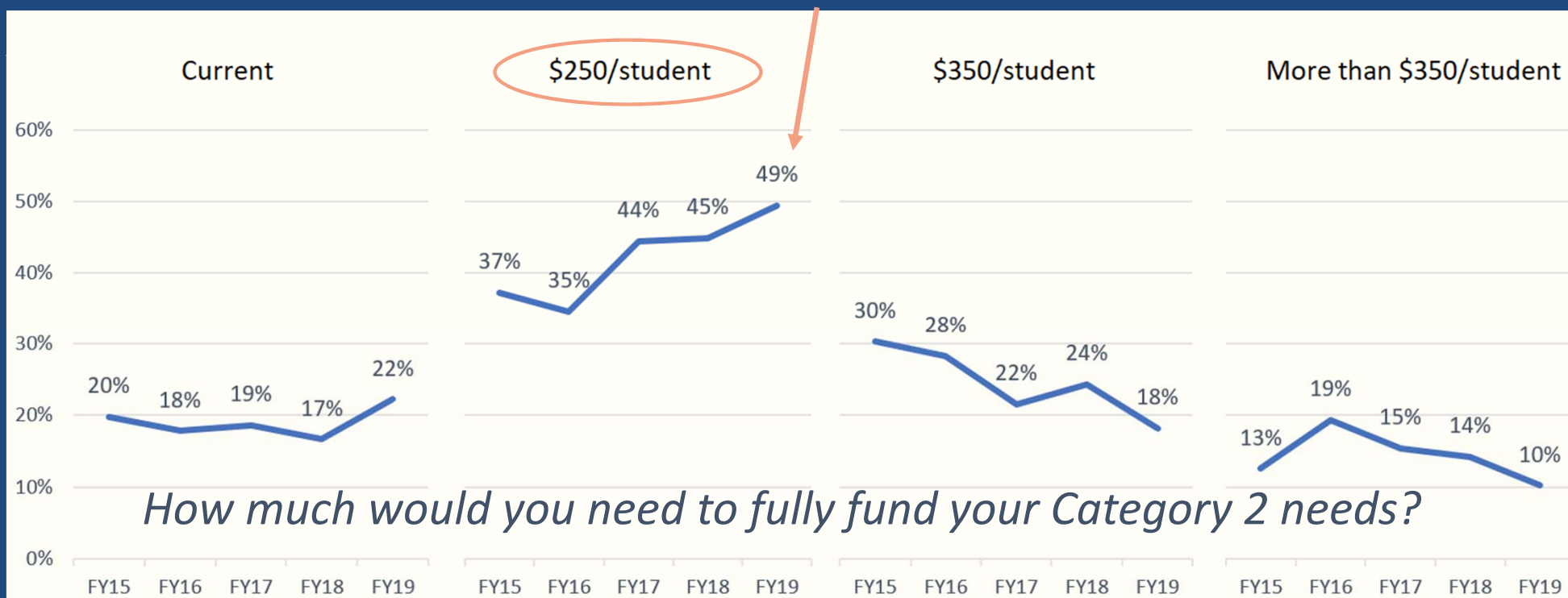
Majority of school sites used less than \$131 per student. Trendline indicates need for \$255.78 per student.



Separate survey also points to \$250/student



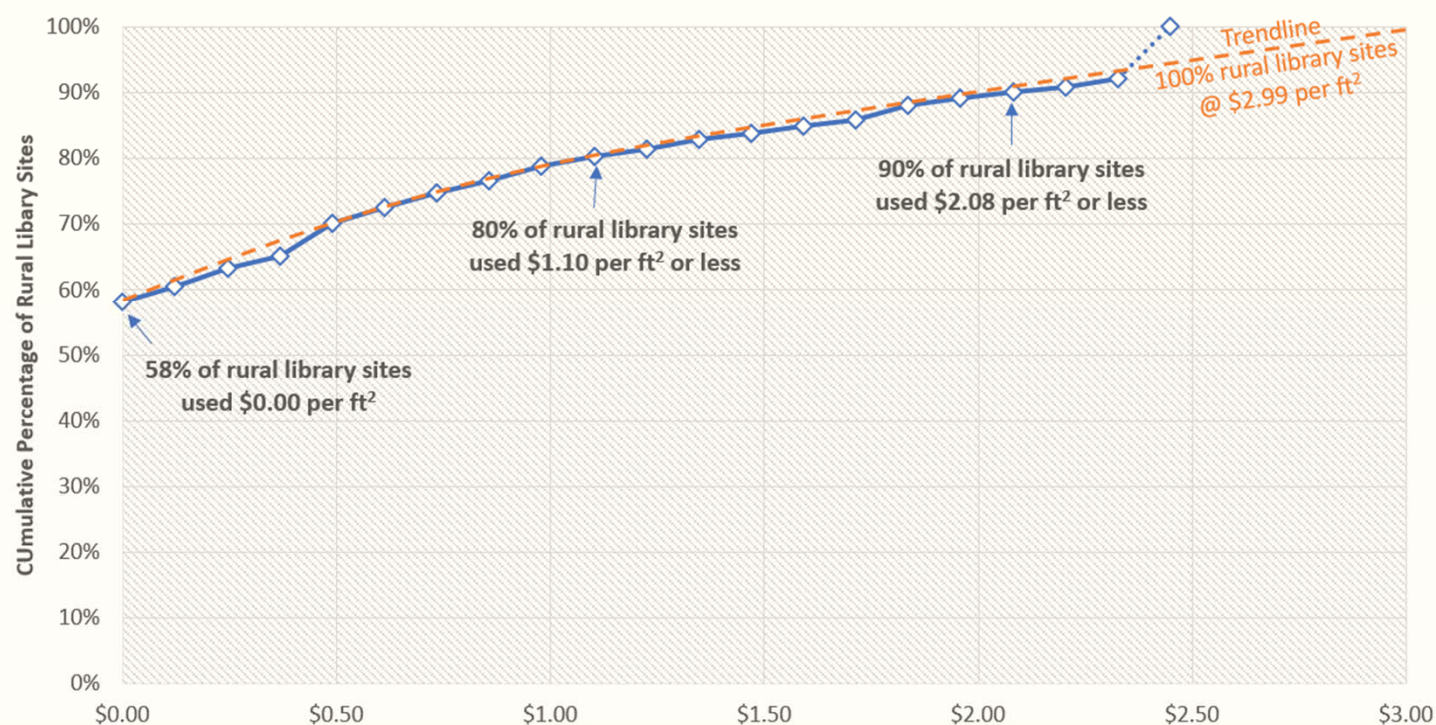
Survey of 1,763 E-rate applicants indicates 49% believe \$250 per student is needed



Forecasted Library Need: Rural \$2.99/ft²

Cumulative Percentage of Rural Library Sites Based on Per Sq. Footage Budget Utilization

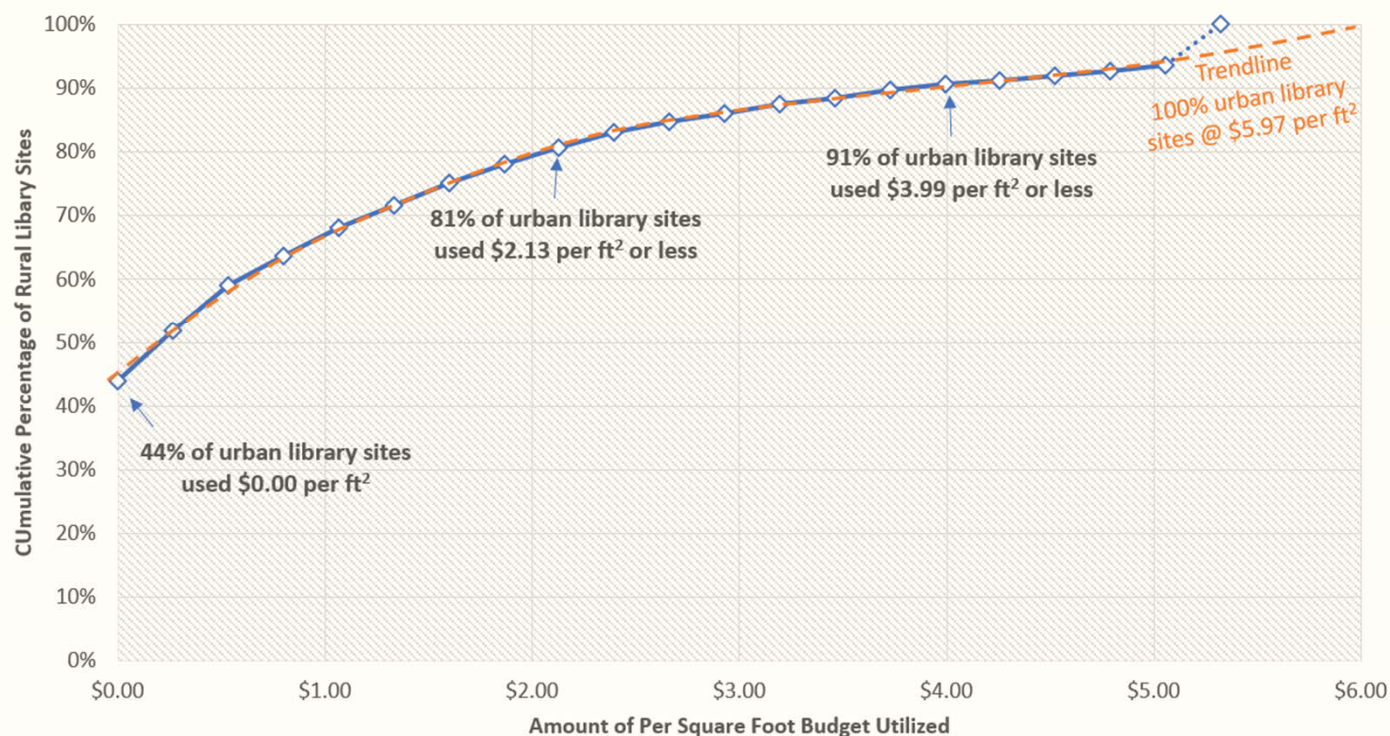
58% of rural library sites did not apply for Category 2. Trendline indicates need for \$2.99 per square foot.



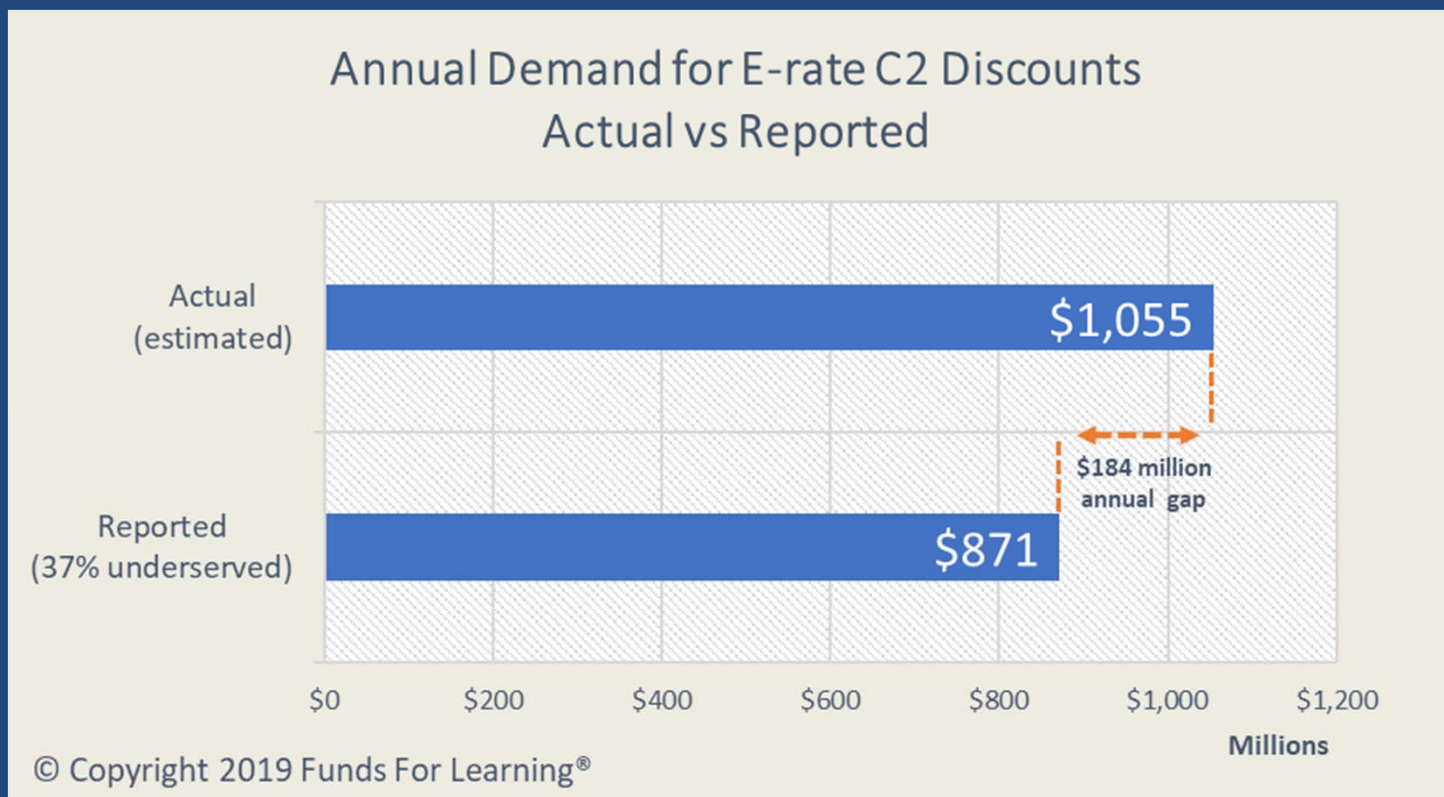
Forecasted Library Need: Urban \$5.97/ft²

Cumulative Percentage of Urban Library Sites Based on Per Sq. Footage Budget Utilization

44% of rural library sites did not apply for Category 2. Trendline indicates need for \$5.97 per square foot.



Result: Estimated \$184 million annual gap

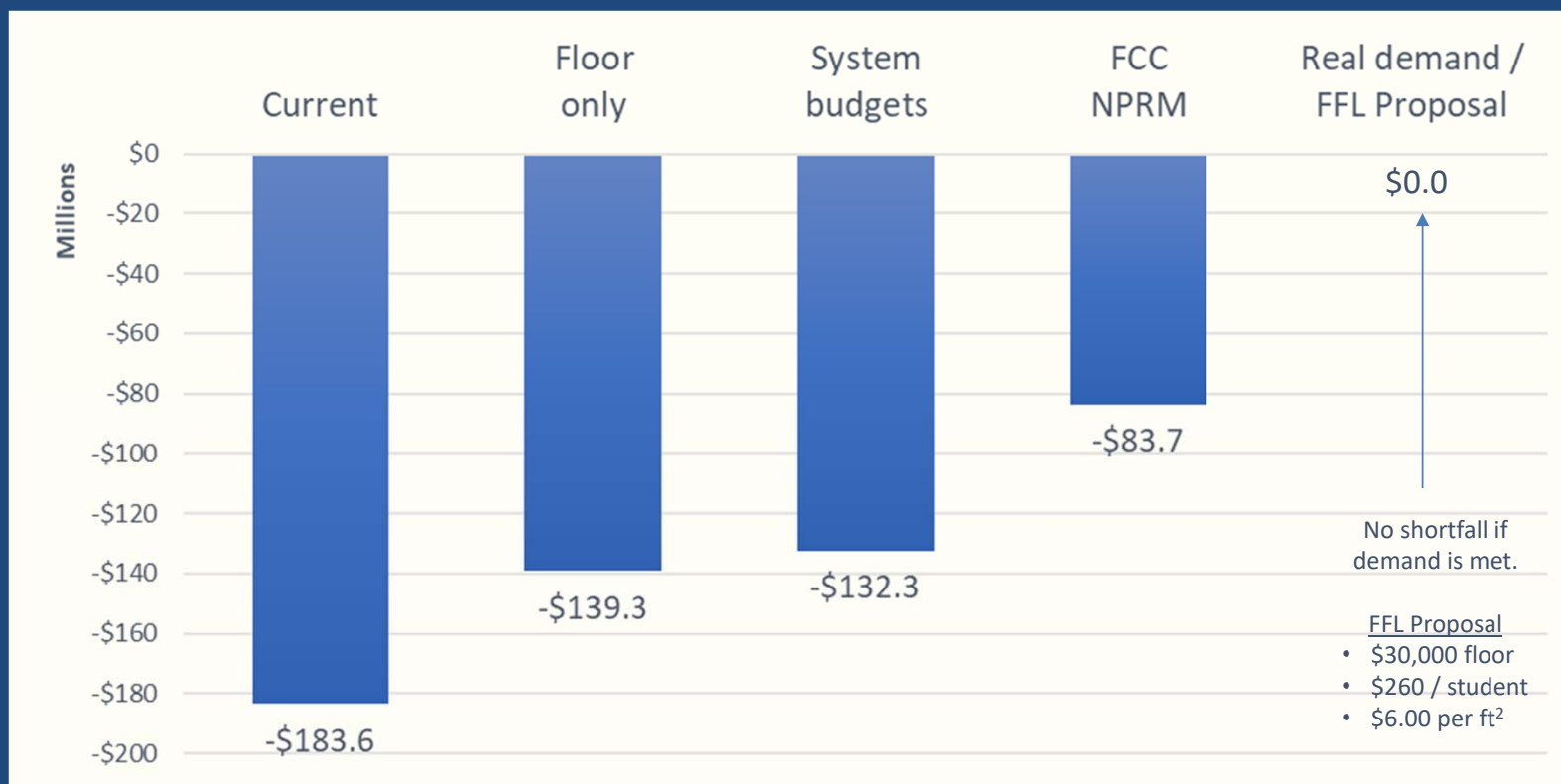


Estimating the Impact of Reform Options

Scenario Name	Scenario Description	Budget Floor	School Per student	Library (per sq. foot)		Budget type	Five-Year (\$ billions)		
				Rural	Urban		E-rate Discounts	Applicant Payment	Total Expense
#0 - Current	Actual results from FY2015 to FY2019	\$9,738	\$159.67	\$2.44	\$5.32	Site-level	\$4.356 -\$0.918	\$1.638 -\$0.316	\$5.994 -\$1.234
#1 - Floor	Increase floor to \$25K; No other changes.	\$25,000	\$159.67	\$2.44	\$5.32	Site-level	\$4.578 -\$0.697	\$1.706 -\$0.248	\$6.283 -\$0.945
#2 - System budgets	Consolidated budgets; No other changes	\$9,738	\$159.67	\$2.44	\$5.32	Consolidated	\$4.613 -\$0.662	\$1.731 -\$0.223	\$6.344 -\$0.884
#3 - FCC NPRM	Consolidated budgets + \$25K floor (considered in NPRM)	\$25,000	\$159.67	\$2.44	\$5.32	Consolidated	\$4.856 -\$0.419	\$1.805 -\$0.149	\$6.661 -\$0.567
#4 - Real demand	Real Demand (estimated by FFL)	\$30,000	\$260.00	\$6.00	\$6.00	Consolidated	\$5.274 \$0.000	\$1.954 \$0.000	\$7.228 \$0.000

Estimated shortfall shown in grey

Estimated Annual C2 Shortfall of Solutions



FFL's Recommendation

- Increase budget factors to serve the needs of all sites
 - › Floor: \$30,000
 - › School: \$260 per student; Library: \$6 per square foot
- Simplify admin with system-level budget tracking
- Reduce C2 to one set of services (combine IC, BM, MIBS)
- Allow all network infrastructure (eliminate cost allocations)
- Set a five-year fixed cycle for all applicant budgets